

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A communication apparatus in a wireless communication system having a base station, comprising:

a part which autonomously forms a zone which is a service area of said base station[[.]]; and

a part which determines said zone of said base station on the basis of a first distance between said base station and a zone edge of a surrounding base station, and a second distance between said base station and a zone edge of said base station when transmission power of said base station is smaller.

Claim 2 (Currently Amended): The communication apparatus as claimed in claim 1, further A communication apparatus in a wireless communication system having a base station, comprising:

a part which detects that a zone is newly formed around said base station; and
a part which autonomously changes a zone which is a service area of said base station according to a newly formed zone.

Claim 3 (Currently Amended): The communication apparatus as claimed in claims 1 or 2 claim 1, further comprising:

a part which detects a congestion state of a surrounding base station of said base station; and
a part which enlarges a zone which is said service area of said base station according to said congestion state to the direction of said surrounding base station.

Claim 4 (Currently Amended): The communication apparatus as claimed in claims-1 or-2 claim 1, further comprising:

a part which determines said zone of said base station on the basis of receive quality of a signal received from a surrounding base station of said base station.

Claim 5 (Currently Amended): The communication apparatus as claimed in claim 4, further comprising:

a part which measures received power or transmission delay of a signal sent to said base station from a surrounding base station;
a part which calculates a distance between said base station and said surrounding base station on the basis of a result of the measurement; and
a part which determines said zone which is said service area of said base station on the basis of the result of calculation.

Claim 6 (Original): The communication apparatus as claimed in claim 4, further comprising:

a part which measures a bit error rate or a packet error rate from information sent from said surrounding base station to said base station; and
a part which determines said zone which is said service area of said base station according to a result of the measurement.

Claim 7 (Currently Amended): The communication apparatus as claimed in claims-1 or-2 claim 1, further comprising:

a part which detects a service content of a surrounding base station by said base station; and

a part which determines said zone which is said service area of said base station such that the same services as said service do not overlap in the same service area.

Claim 8 (Currently Amended): The communication apparatus as claimed in ~~claims 1 or 2~~ claim 1, further comprising:

a part which autonomously determines which pattern is used in which a plurality of patterns of said zone which is said service area of said base station are prepared.

Claim 9 (Canceled).

Claim 10 (Currently Amended): The communication apparatus as claimed in claim [[9]] 1, further comprising:

a part which determines said zone of said base station on the basis of a distance between said base station and a zone edge of a surrounding base station in which said first distance becomes minimum in surrounding base stations except particular surrounding base stations in which a value obtained by subtracting said first distance from said second distance becomes larger than a predetermined value.

Claim 11 (Currently Amended): The communication apparatus as claimed in claim [[9]] 1, further comprising:

a part which determines said zone of said base station as a zone formed when transmission power of said base station is minimum if there is a surrounding base station in which a value obtained by subtracting said first distance from said second distance is larger than a predetermined value.

Claim 12 (Currently Amended): The communication apparatus as claimed in claim [[9]] 1, further comprising:

a part which determines said zone of said base station on the basis of a distance between said base station and a zone edge of a surrounding base station in which said first distance becomes minimum in surrounding base stations except particular surrounding base stations in which a value obtained by subtracting said first distance from said second distance becomes larger than a predetermined value, when beam width of an antenna used by said base station exceeds a predetermined angle; and

a part which determines said zone of said base station as a zone formed when transmission power of said base station is minimum if there is a surrounding base station in which a value obtained by subtracting said first distance from said second distance is larger than a predetermined value, when beam width of an antenna used by said base station does not exceed a predetermined angle.

Claim 13 (Currently Amended): The communication apparatus as claimed in claim [[9]] 1, further comprising:

a part which obtains said first distance as a value calculated by subtracting the size of a zone of said surrounding base station from a distance between said base station and said surrounding base station; and

obtains said distance between said base station and said surrounding base station from received power of a signal at said base station sent from said surrounding base station and transmission power of said surrounding base station.

Claim 14 (Currently Amended): A wireless communication system including a plurality of base stations, said wireless communication system including at least a particular

base station as only a part of said plurality of base stations, said particular base station including:

a zone determining part which determines said zone of said base station on the basis of receive quality of a signal received from a surrounding base station of said base station, said zone determining part includes:

a part which measures received power or transmission delay of a signal sent to said base station from said surrounding base station,

a part which calculates a distance between said base station and said surrounding base station on the basis of a result of the measurement, and

a part which determines said zone which is said service area of said base station on the basis of the result of the calculation said particular base station including a part which autonomously forms a zone of a service area of said particular base station on the basis of receive quality of signals received from surrounding base stations.

Claim 15 (Currently Amended): An autonomous zone forming method of forming a zone which is a service area of a base station in a wireless communication system having said base station, said method comprising the step steps of:

autonomously forming said zone by performing a zone determining step of determining said zone of said base station on the basis of receive quality of a signal received from a surrounding base station of said base station, said zone determining step including:

measuring received power or transmission delay of a signal sent to said base station from a surrounding base station,

calculating a distance between said base station and said surrounding base station on the basis of a result of the measurement, and

determining said zone which is said service area of said base station on the basis of the result of calculation.

Claim 16 (Currently Amended): An The autonomous zone forming method as claimed in claim 15, of forming a zone which is a service area of a base station in a wireless communication system having said base station, said method further comprising the steps of: detecting that a zone is newly formed around said base station; and autonomously changing a zone which is said service area of said base station according to a newly formed zone.

Claim 17 (Currently Amended): The autonomous zone forming method as claimed in claims 15 or 16 claim 15, further comprising the steps of: detecting a congestion state of a surrounding base station of said base station; and enlarging a zone which is said service area of said base station according to said congestion state to the direction of said surrounding base station.

Claim 18 (Canceled).

Claim 19 (Currently Amended): The autonomous zone forming method as claimed in claims 15 or 16 claim 15, further comprising the steps of: detecting a service content of a surrounding base station by said base station; and determining said zone which is said service area of said base station such that the same services as said service do not overlap in the same service area.

Claim 20 (Currently Amended): ~~The An~~ autonomous zone forming method as claimed in claim 15, further of forming a zone which is a service area of a base station in a wireless communication system having said base station, said method comprising the step of:
autonomously forming said zone by determining said zone of said base station on the basis of a first distance between said base station and a zone edge of a surrounding base station, and a second distance between said base station and a zone edge of said base station when transmission power of said base station is smallest.

Claim 21 (Original): The autonomous zone forming method as claimed in claim 20, further comprising the step of:

determining said zone of said base station on the basis of a distance between said base station and a zone edge of a surrounding base station in which said first distance becomes minimum in surrounding base stations except particular surrounding base stations in which a value obtained by subtracting said first distance from said second distance becomes larger than a predetermined value.

Claim 22 (Original): The autonomous zone forming method as claimed in claim 20, further comprising the step of:

determining said zone of said base station as a zone formed when transmission power of said base station is minimum if there is a surrounding base station in which a value obtained by subtracting said first distance from said second distance is larger than a predetermined value.

Claim 23 (Original): The autonomous zone forming method as claimed in claim 20, further comprising the steps of:

determining said zone of said base station on the basis of a distance between said base station and a zone edge of a surrounding base station in which said first distance becomes minimum in surrounding base stations except particular surrounding base stations in which a value obtained by subtracting said first distance from said second distance becomes larger than a predetermined value, when beam width of an antenna used by said base station exceeds a predetermined angle; and

determining said zone of said base station as a zone formed when transmission power of said base station is minimum if there is a surrounding base station in which a value obtained by subtracting said first distance from said second distance is larger than a predetermined value, when beam width of an antenna used by said base station does not exceed a predetermined angle.

Claim 24 (Original): The autonomous zone forming method as claimed in claim 20, further comprising the steps of:

obtaining said first distance as a value calculated by subtracting the size of a zone of said surrounding base station from a distance between said base station and said surrounding base station; and

obtaining said distance between said base station and said surrounding base station from received power of a signal at said base station sent from said surrounding base station and transmission power of said surrounding base station.

Claim 25 (New): A communication apparatus in a wireless communication system having a base station, comprising:

a part which autonomously forms a zone which is a service area of said base station; and

a zone determining part which determines said zone of said base station on the basis of receive quality of a signal received from a surrounding base station of said base station,
said zone determining part including
a part which measure received power or transmission delay of a signal.

Claim 26 (New): A communication apparatus in a wireless communication system having a base station, comprising:

a part which autonomously forms a zone which is a service area of said base station;
and

a zone determining part which determines said zone of said base station on the basis of receive quality of a signal received from a surrounding base station of said base station,
said zone determining part including

a part which measures a bit error rate or a packet error rate from information sent from said surrounding base station to said base station, and

a part which determines said zone according to a result of the measurement of the bit error rate or the packet error rate.